



Story County Planning and Development
Administration Building
900 6th Street, Nevada, Iowa 50201

Ph. 515-382-7245
www.storycountyiaowa.gov

MEMORANDUM

TO: Story County Planning and Zoning Commission
FROM: Andrea Wagner, Planner
RE: Proposed amendments to the Story County Land Development Regulations, Chapter 85—Definitions, and Chapter 88—General Site Planning Standards
MEETING
DATE: May 4, 2022

Introduction

As part of the comprehensive review and update of the Story County Land Development Regulations assigned to the Planning and Development Department for the 2022 Work Program, staff has completed a draft of proposed changes to Chapter 85—Definitions, and Chapter 88—General Site Planning Standards. These changes provide standards for the protection of environmentally sensitive areas during development. For most areas covered by the update, “development” refers to proposed rezonings, conditional use permits, commercial site plans, and subdivisions with more than two development (buildable) lots. The Commission saw a preview of these changes during their November 3, 2021, meeting.

The proposed update to the ordinance adds additional protections for particularly sensitive areas in the County, and it clarifies language in our existing code. Due to the amount of new material to be included in the ordinance, there are a significant number of definitions proposed to be added to Chapter 85 (see Appendix A). Environmentally sensitive areas covered by the ordinance include wetlands, remnant prairie and savanna, significant slopes, significant trees, archaeological resources, and watercourses and other waterbodies. County Conservation staff reviewed the updates, and their feedback has been integrated into the draft presented today (see Appendix B).

We are looking for additional feedback from the Commission, as well as direction to begin public outreach prior to bringing a final draft for the Commission and the Board of Supervisors to take action on.

Goals of the Ordinance and Sources of Information

A primary goal of the updated ordinance is to better align the Land Development Regulations with the Cornerstone to Capstone (C2C) Plan, which has a focus on preserving natural amenities and cultural resources. This update also assists in implementing recommendations from the Countywide Watershed Assessment. Recommendations from that assessment included achieving no net-loss of wetlands in Story County, as well as to protect land cover (e.g., prairie, savanna, and significant trees) and restore stream buffers.



To date, staff has communicated with the watershed coordinator/water resources planner in Polk County, as well as with staff in Johnson County's planning department. Both counties have adopted ordinances similar to what we are proposing for the protection of environmentally sensitive areas during development, and we have used their ordinances for guidance.

Staff also contacted the Natural Resources Conservation Service (NRCS), U.S. Army Corps of Engineers, and Iowa State University Extension in order to inform what would be included in the ordinance. These contacts provided further guidance on appropriate definitions and mitigation/restoration of sensitive environmental areas.

November 3rd Planning and Zoning Commission Meeting

At the November 3, 2021, meeting, staff presented an outline of the proposed update to the Planning and Zoning Commission and asked the Commission for feedback. The Commission asked for several points of clarification, which staff took into account for the current draft. Below is a summary of clarifications that staff made after the November 2021 meeting:

- Staff clarified what process we will use to determine if a wetland exists on a site that is being proposed for development and what the identifiers of a wetland are.
- After consulting with County Conservation, the ordinance now only refers to protecting remnant prairie, as opposed to both remnant and reconstructed prairie.
- The current ordinance on significant trees has been substantially updated to clarify when mitigation shall take place. Significant trees are one of a few resources where impact limitations apply to any permit (zoning and grading permits included) or proposed development.
- After consulting with the watershed coordinator for Polk County and hearing the Commission's feedback on stream buffers, staff changed the buffer requirements to better account for meandering of streams, as well as appropriate sizing of buffers for mapped watercourses with known and unknown floodways (means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation).
- The portion on significant slopes has been moved to a different section of the ordinance that covers lot configurations. Impact is allowed on slopes with a gradient between 15% and 25%, but a professional engineer must create the site plan to identify stabilization best management practices.
- The Commission also voiced concerns regarding how staff will be identifying environmentally sensitive areas on a site. More detailed identification sections have been added to each sensitive area type identified in the ordinance. With the exception of stream and steep slopes, which are mapped with high accuracy, the applicant may conduct their own inventory as part of an application to identify a feature. As staff mentioned at the Commission meeting, there will be a corresponding map—the C2C Future Land Use map includes a Natural Areas layer. The map includes 100-year floodplains, steep slopes based on contour maps, wetlands from the National



Story County Planning and Development Department
Ph. 515-382-7245 Fax: 515-382-7294

Wetlands Inventory, streams and rivers, waterbodies, and other environmentally sensitive areas including prairies, savannas, and wildlife corridors. It also reflects larger features or areas that were identified through use of GIS data sets and visual inspection of aerial photography. The draft map can be found [here](#).

Outreach on the Ordinance

As already mentioned, staff have been in communication with County Conservation, including taking a previous outline of this ordinance to the County Conservation Board. Conservation staff have provided valuable feedback on identifiers environmentally sensitive areas and the proposed buffer sizes. Planning and Development staff will be taking the updated draft to another County Conservation Board meeting when their agenda allows.

In addition to gathering comments from Conservation staff, Planning and Development also sought out training from an Iowa State professor of Agronomy to gain a better understanding of hydric soils. Though professional delineation of wetlands may still be required if hydric soils are present on a site, staff now have more insight into identifiers of hydric soils and when recommending professional delineation may be necessary.

The District Conservationist for Story County also provided valuable information regarding how the Natural Resources Conservation Service (NRCS) approaches restoring farmed wetlands, as well as how they identify potential wetlands without being on-site. Importantly, their method of identifying potential wetlands is similar to what staff have proposed in our ordinance, and the District Conservationist relayed that they feel the National Wetlands Inventory is missing existing wetlands.

Given some of the Commission's previous concerns about the ordinance, staff would also like to clarify that the proposed ordinance in no way impacts farm operations or farm fields where wetlands may exist. The regulations proposed in Appendix B would only apply to specific types of development applications that are typically taking land out of agricultural production or impact other green or open spaces.

After the Planning and Zoning Commission meeting, staff would like to begin public outreach on the proposed ordinance and gather public comments. Our intent is to send notification of public workshops to all landowners in mapped Natural Areas.



Appendix A

“Adaptive management” means flexible decision making in the event of uncertainty, wherein management actions can be adjusted based on outcomes and unforeseen events.

“Aquatic bed wetland” means wetland habitats dominated by plants that grow principally on or below the surface of the water for most of the growing season in most years.

“Archaeological features” means those materials documenting past human life and activities and having cultural and historic significance. This includes, but is not limited to, ancient burial grounds, pioneer cemeteries, and Native American mounds.

“Coniferous trees” means those tree species that are cone-bearing and do not seasonally lose their needles.

“Deciduous trees” means those tree species that seasonally lose all of their leaves.

“Environmentally sensitive area” means areas including wetlands, lakes, reservoirs, streams, steep slopes, archaeological resources, native prairie, native savanna and other areas deemed sensitive by the Story County Conservation Board and/or the Countywide Watershed Assessment. These areas may be mapped as Natural Resource Areas on the C2C Future Land Use Map or as Environmentally Sensitive Areas on the Ames Urban Fringe Plan Land Use Framework Map. ~~and other areas as identified on the Restoration and Protection maps available on the Story County website under watershed planning.~~

“Forested wetland” means a wetland characterized by woody vegetation that is 6 meters tall or taller.

“Hydric soils” means soils that are saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation. A list of hydric soils is available at the Natural Resources Conservation Service (NRCS).

“Impact” means any disturbance to an environmentally sensitive area that negatively alters its form and function, including, but not limited to, grading and earth disturbance, construction, vegetation removal, and vehicle or heavy machinery movement. Impact does not include sensitive area enhancement, maintenance, and other best management practices.

“Iowa Coefficient of Conservatism” means plant species in Iowa that have been assigned a coefficient of conservatism (ranging from 0 to 10), representing the probability that a species is likely to occur in a landscape relatively unaltered from a pre-settlement condition.



“Limits of disturbance” means an area delineated on a site plan, subdivision plat, or use permit that establishes the maximum extent of allowed impact to steep, critical, or protected slopes. Impact to areas beyond the limits of disturbance constitutes a violation of the approved permit.

“Mitigation” means the restoration, establishment, or preservation of natural resources or environmentally sensitive areas and/or features including, but not limited to, archaeological resources, native prairie, and savanna.

“Mitigation, compensatory” means the restoration, establishment, or preservation of aquatic resources, including wetlands, streams, hydric soils and stream riparian buffer areas.

“Mitigation plan” means a plan that outlines procedures for avoiding, minimizing, and compensating adverse impacts to an environmentally sensitive area, and includes, but is not limited to, outlining provisions for long-term management, permanent protection, suitable remedial action, and monitoring and reporting.

“Old growth forests” means forest stands that have developed, undisturbed, over a long period of time and contain large tree species and a complex stand structure.

“Savanna remnant” means areas containing a mixed association of native open grown trees, frequently oaks and hickories, in grassland.

“Native woodland shrubs” means those shrub species typically found among forest stands endemic to Iowa.

“Natural resource areas” is a designation on the *Cornerstone to Capstone (C2C) Future Land Use Map* and includes environmentally sensitive areas.

“Prairie, remnant” means prairie that has remained relatively untouched or undisturbed by development, including tillage and over-grazing, and was once part of the larger, original landscape.

“Protected areas” means environmentally sensitive areas that shall only be impacted in accordance with provisions of Chapter 88.05 of the Story County Land Development Regulations.

“Qualified professional” means an individual who can demonstrate that they have completed appropriate training, certification, and/or experience to evaluate individual or multiple environmentally sensitive area types, including, but not limited to, prairie remnants, savanna remnants, riparian areas, and archaeological resource areas, and complete a site assessment and/or mitigation plan.

“Riparian buffer areas” means those vegetated or previously vegetative areas that are adjacent to or near rivers, streams, watercourses, or wetlands.



“Slopes, critical” means slopes measuring between twenty-six percent (26%) and thirty-five percent (35%).

“Slopes, protected” means slopes measuring greater than thirty-five percent (35%).

“Slopes, significant” means slopes which are greater than fifteen percent (15%) and are susceptible to erosion, sliding, or collapsing.

“Slopes, steep” means slopes measuring between fifteen percent (15%) and twenty-five percent (25%).

“Suitable remedial action” means corrective action taken in the event that a mitigation plan for an environmentally sensitive area fails.

“Vegetation classes” means those categories of wetland indicator plants found in the U.S. Army Corps of Engineers’ *National Wetland Plant List Indicator Rating Definitions* and the current, adopted National Wetland Plant List.

“Watercourse” means any natural or improved stream, river, creek, ditch, channel, canal, conduit, gutter, culvert, drain, gully, ~~or~~ swale, or other drainageway in which waters flow either continuously or intermittently.

“Wetlands” means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. The diagnostic characteristics of wetlands are vegetation, hydric soils and hydrology.

“Wetland specialist” means an individual certified by the Society of Wetland Scientists or has taken the forty (40) hour United States Army Corps of Engineers Wetland Delineator Certification Training Program. Wetland Specialists shall demonstrate to the Director that they have expertise in wetland science.



Appendix B

88.03 LOTS.

1. Public Utility Easements. Easements of not less than 10 feet in width shall be provided on each side of all rear lot lines and/or side lot lines where necessary for poles, wires, conduits, and storm utilities. Easements of greater width may be required along lines or across lots where necessary for the extension of main sewers and similar utilities.

2. Lot Arrangement and Design. The lot arrangement and design shall be such that they are topographically desirable building sites and avoid unstable landforms or significant slopes, which include steep, critical, and protected slopes, as defined in 85.08. ~~all lots will provide satisfactory and desirable building sites properly related to topography~~ Lot design shall preserve natural resources to the fullest extent possible.

- A. Steep slopes (between 15% and 25%) shall not be cleared, developed or built upon without an approved soil erosion plan, completed by a professional engineer, and a plan to re-vegetate the site. These plans shall be submitted with the site plan. Contiguous steep slopes on any lot shall not have an impervious surface coverage greater than fifteen (15) percent.
- B. Critical slopes (between 26% and 35%) shall not be impacted greater than twenty-five (25) percent, and such impact shall be limited to installation of required infrastructure, such as driveways and access roads, rural water lines, gas lines, or other public utilities. A plan to re-vegetate the site shall be required, completed by a qualified professional.
- C. Protected slopes (greater than 35%) shall not be impacted for any reason, with the exception of installing required erosion and/or stormwater control management practices, or the installation of essential utilities. A plan to re-vegetate the site shall be required, completed by a qualified professional.
- D. Any impact on significant slopes shall require a site plan created by a licensed engineer, a professional geologist, or other qualified individual to identify stabilization best management practices and the suitability of the building site.
- E. Limits of disturbance shall be denoted on site plans, and on-site, for parcels with significant slopes.
- F. Determination and classification of significant slopes shall be completed by the applicant, using United States Geological Survey topographic maps featuring the contour lines at two-foot intervals. Applicants may request such contour maps from the Story County Planning and Development Department.

88.05 ENVIRONMENTAL AND NATURAL RESOURCE STANDARDS.

1. Protections for Environmentally Sensitive Areas. When property is developed, it shall be done so that ~~proposed physical elements of the development are~~ it is designed and arranged ~~on the site to protect natural areas and~~ environmentally sensitive areas ~~features of the~~



site. Environmentally sensitive areas include wetlands, watercourses and waterbodies, steep slopes, archaeological resources, and remnant prairies and savannas. These areas are mapped as Natural Resource Areas on the C2C Future Land Use Map or as Environmentally Sensitive Areas on the Ames Urban Fringe Plan Land Use Framework Map. However, not all environmentally sensitive areas are mapped and individual developments will need to consider site specific characteristics. Disturbance shall be minimized and/or mitigated where avoidance is not possible. The development shall be designed and arranged to ensure that disturbance to natural areas and the plants and wildlife inhabiting those areas as a result of the development shall be minimized.

A. General Requirements. The following standards apply to all environmentally sensitive areas.

(1) Impact. Impact to sensitive areas is permitted only in accordance with the provisions of this chapter. Protected areas shall be denoted on the site plan or subdivision plat, if applicable, and shall be flagged or marked on the site prior to any construction activities, including any ground disturbance or vegetation removal. During the construction stage of development, the applicant shall prevent the cleaning of equipment or material or the storage and disposal of waste materials such as paints, oils, solvents, asphalt, concrete, motor oil or any other harmful material.

a) The Planning and Development Director and Conservation Director may approve modifications to allow disturbance in the protected areas that does not increase the required mitigation area if they are deemed insignificant. A modification is insignificant if it has no greater impact on the environmentally sensitive area than the approved plan.

(2) Mitigation Plan. In all cases where mitigation is permitted due to exceeding thresholds for disturbance, a mitigation plan shall be developed and implemented in accordance to the following standards. These requirements shall not supplant regulatory mitigation required through the U.S. Army Corps of Engineers or other regulatory agency or governmental body. If the provisions under this chapter of the Story County Land Development Regulations are in excess of another governmental entity or body's standards, then the County provisions shall still apply. Whenever the provisions of another governmental entity or body's standards are in excess of this chapter of the Story County Land Development Regulations, then their provisions shall also apply.

a) Qualified Professional. All mitigation plans shall be developed and implemented by a qualified professional as defined in Chapter 85.08.

b) Responsible Party. The party responsible for maintenance and their contact information, if different from the property owner or permit applicant, shall be included.

c) Methods of Mitigation. Required mitigation may be accomplished through preservation and enhancement of off-site sensitive areas, reconstruction of



- sensitive areas, or a combination thereof.
- d) Location. All mitigation shall occur within Story County unless the applicant can demonstrate that mitigation in accordance to this section is not feasible within the County or otherwise permitted by a specific resource subsection.
 - e) Standards for Permanent Protection. Areas preserved, reconstructed, or created to meet mitigation requirements shall be permanently protected from development through a conservation easement, deed restriction, or donated to a public agency for protection.
 - i. Conservation easements shall be held by an accepted third party land conservation organization or Story County Conservation.
 - ii. Land donations to public agencies would include entities such as the Story County Conservation Board, Iowa Department of Natural Resources, US Army Corps of Engineers, US Fish and Wildlife Service, etc. If donation to a public agency is infeasible, land donations to conservation non-profits may be permissible.
 - iii. A long-term management plan, with provisions for adaptive management, monitoring, and reporting to the County, shall also be provided within the mitigation plan.
- (3) Suitable remedial action by the responsible party will be required if all or part of a reconstructed sensitive area fail to become established in the timeframe indicated in the plan.
- (4) Mitigation plans shall be approved by the Board of Supervisors and the Story County Conservation Board
 - a) If the Story County Conservation Board does not approve the mitigation plan, then no zoning permit may be issued or Conditional Use Permit, or proposed subdivision will be brought for a vote before other boards and/or commissions.
- (5) If a responsible party fails or refuses to meet the requirements of the approved mitigation plan or any provision of this ordinance, the County shall notify the party responsible for implementation and maintenance of the mitigation plan in writing following the procedure for Notice of Violations in Chapter 93 of the Story County Land Development Regulations. Depending on the severity of the violation, the permitted timeframe to submit a compliance schedule may be reduced. If the violator does not correct/abate the violation or provide an acceptable schedule to correct/abate the violation, or does not comply with the schedule, a citation for a County infraction may be issued in accordance with Chapter 93 of the Story County Land Development Regulations.

~~1. Easements Along Streams. Whenever any stream or major surface water course is located in an area being subdivided, the subdivider shall provide and dedicate to the County an easement along each side of the stream, which easement shall be for the purpose of widening, improving or~~



protecting the streams, if necessary. The width of such easement shall be adequate to provide for any necessary channel relocation and straightening, but in no case shall such easement be less than 30 feet on both sides of the center of the watercourse.

—A. Suitable provisions for maintenance and upkeep of easements shall be provided through a homeowners association, deed covenants, or through other similar provisions as approved by the Board of Supervisors.

—2. Protection of Natural Vegetation Cover. Whenever a site to be developed contains naturally occurring resources, as defined in Section [85.08](#), Definitions, no more than 15 percent shall be removed due to surface earth grading, roadway construction, building site clearance, or any other construction activity associated with site improvement.

(Ordinance No. 184)

—A. Prior to and during construction, barriers shall be erected around all naturally occurring resources.

—(1) Such barriers shall be orange fencing at a minimum of four feet in height, secured with metal T posts, no closer than six feet from the trunk or one half of the drip line of any tree line, or no closer than 20 feet of any identified resource, whichever is greater.

(Ordinance No. 184)

—(2) Storage or movement of equipment, material, debris or fill within the protection zone is prohibited.

—B. Whenever removal of more than 15 percent of the naturally occurring resources is deemed necessary and unavoidable a mitigation replanting measure shall be implemented as follows.

(Ordinance No. 184)

—(1) Within the drip line of any significant tree, there shall be no cut or fill over a four inch depth unless a qualified arborist, forester or representative from the Story County Conservation Board has evaluated and approved the disturbance.

(Ordinance No. 184)

—(2) During the construction stage of development, the applicant shall prevent the cleaning of equipment or material or the storage and disposal of waste materials such as paints, oils, solvents, asphalt, concrete, motor oil or any other material harmful to the life of the natural vegetation cover.

—(3) No damaging attachment, wires, signs or permits may be fastened to any significant tree.

—C. Where it is not feasible to protect and retain significant trees or to transplant them to another on-site location, the applicant shall replace such trees according to the following



~~schedule and requirements. Replacement trees shall be planted either on the development site or in the closest available planting site within 1,320 feet of the development site.~~

~~— D. A significant tree that is removed shall be replaced with not less than one or more than six replacement trees sufficient to mitigate the loss of value of the removed significant tree. The loss of such significant tree shall be determined based on appraisal of the tree to be removed by using the most recent published methods established by the Council of Tree and Landscape Appraisers.~~

~~— E. Replacement trees shall meet the following minimum size requirements:~~

~~— Canopy Shade Trees — three inch caliper, balled and burlap or equivalent~~

~~— Ornamental Trees — two and one half inch caliper, balled and burlap or equivalent~~

~~— Evergreen Trees — eight foot height, balled and burlap or equivalent~~

~~— F. Significant trees that meet one or more of the following removal criteria shall be exempt for the requirements of this subsection:~~

(Ordinance No. 184)

~~— (1) Dead, dying or naturally fallen trees, or trees found to be a threat to public health, safety or welfare;~~

~~— (2) Trees that are determined to substantially obstruct clear visibility at driveways and intersections;~~

~~— (3) Tree species that are identified as nuisance tree species.~~

B. Significant Trees and Native Woodland Shrubs. Old growth trees and shrubs provide wildlife corridors and habitat to Story County's wildlife species. They also provide water quality benefits, supply oxygen, and store atmospheric carbon.

(1) Applicability. The provisions within this section apply to all zoning and grading permits, conditional use permits, commercial site plans, and subdivisions with more than two development lots. These shall be hereinafter referred to as "development."

(2) Identification. Significant trees and shrubs are located in mapped Natural Resources Areas on the C2C Plan Future Land Use Map. Significant trees are deciduous trees with a caliper greater than four (4) inches, measured four (4) feet off the ground, or a coniferous tree taller than fifteen (15) feet. Significant native shrubs have a diameter of three inches.

(3) Implementation. Impact to significant trees shall be avoided where possible and no more than 15% of significant trees on a parcel mapped as Natural Resource Areas on the C2C Plan Future Land Use Map shall be removed without mitigation.

(4) Impact. Mitigation is required when over 15% of significant trees are proposed to be removed from a Natural Resource Area, as mapped on the C2C Plan Future Land Use



Map, on a parcel. The following mitigation standards shall be required in addition to those general standards in Chapter 88.05(1)(A).

- a. Prior to removal of significant trees, a replacement plan shall be submitted as part of a development application. For zoning and grading permits, the replacement plan may be approved by the Planning and Development Director in lieu of a mitigation plan approved by the Board of Supervisors and the Story County Conservation Board.
- b. Within the drip line of any significant tree, there shall be no cut or fill over a four-inch depth unless a qualified arborist, forester or representative from the Story County Conservation Board has evaluated and approved the disturbance.
- c. Replacement trees must be kept alive and be planted in accordance with best management practices for landscaping which ensure the tree's long-term health and survival.
- d. Replacement trees shall be planted either on the development site or in the closest available alternative planting site when infeasible. Allowable alternative planting sites are the following: County-owned parks or preserves; eligible areas undergoing riparian buffer improvements; privately owned land under a conservation easement or in a land trust, with permission of the property owner. Planting areas shall be appropriate locations for native trees based on where old growth forests currently, or historically, are located, and shall not cause detriment to other environmentally sensitive areas.
- e. A significant tree that is removed shall be replaced with not less than one or more than six replacement trees. Replacement costs shall be at the applicant's expense.
- f. Replacement trees shall meet the following minimum size requirements and shall be primarily native species in order to restore and enhance the site as nearly as practicable to its pre-settlement character.
 - i. Deciduous Trees—three-inch caliper, balled and burlap or equivalent
- g. Significant trees that meet one or more of the following removal criteria shall be exempt for the requirements of this subsection:
 - i. Dead, dying or naturally fallen trees, or trees found to be a threat to public health, safety or welfare;
 - ii. Trees that are determined to substantially obstruct clear visibility at driveways and intersections; or
 - iii. Tree species identified as nuisance tree species by the Iowa Department of Natural Resources.
- h. Enforcement. If during a site review or inspection, it is evident that significant trees have been removed from a mapped Natural Resource Area without a replacement plan, the County shall notify the responsible party in writing following the procedure for Notice of Violations in Chapter 93 of the Story County Land Development Regulations.



C. Wetlands. Wetlands provide wildlife habitat, downstream water quality protection, and natural flood/stormwater attenuation.

(1) Applicability. The provisions within this section shall be applicable to all proposed rezonings, conditional use permits, commercial site plans, and subdivisions with more than two development lots. These shall be hereinafter referred to as “development.”

(2) Identification. When an application for development is received, the following identifying features and sources shall be referenced to identify wetlands. Applicants are encouraged to consult these sources prior to making a submittal.

- a) Wetlands identified on the Story County Countywide Watershed Assessment maps and/or U.S. Fish and Wildlife Service National Wetland Inventory.
- b) Hydric soils identified on the Story County Soil Survey maps.
- c) Depressions and evidence of ponding on U.S. Geological Survey Topographic Maps and aerial imagery.
- d) Soil borings provided by a registered soil engineer and/or a survey of plant material completed by a botanist, landscape architect, engineer, or other qualified professional.

(3) Wetland Delineation Required. When development is proposed within one hundred and fifty (150) feet of an identified wetland, a qualified wetland specialist shall be hired to provide wetland delineation. The delineation shall use the methods in the U.S. Army Corps of Engineers Wetland Delineation Manual and Regional Supplement. If the delineation occurs outside of the normal growing season, the applicant may be required to amend the delineation with information on plant species during the growing season, if vegetation may impact the wetland classification. The delineation shall be at the applicant’s expense.

- a) Wetland Classification. The delineation shall classify the wetland based on the following types. When the areas of any wetland are hydrologically connected and/or have contiguous buffers, the connected areas shall be added together to determine the wetland's size for wetland classification purposes. Vegetation classes identified during the delineation shall adhere to those adopted by the U.S. Army Corps of Engineers in the National Wetland Plant List Indicator Rating Definitions and current National Wetland Plant List.

Class 1 Wetlands.

- i. Wetlands that are used by species listed by the federal or state government as endangered or threatened, or which have an outstanding natural habitat for those species; or
- ii. Wetlands which have forty to sixty percent open waters in dispersed patches with two or more wetland vegetation classes; or
- iii. Wetlands which are equal to or greater than ten (10) acres in size and have three or more wetland vegetation classes, one of



which is an aquatic bed wetland; or

iv. Wetlands with plant associations of infrequent occurrence according to the Iowa Coefficient of Conservatism.

Class 2 Wetlands.

- i. Wetlands which are greater than one acre in size; or
- ii. Wetlands which are equal to or less than one acre in size, and have three or more wetland vegetation classes; or
- iii. Wetlands with a forested wetland vegetation class and which are equal to or less than one acre in size.

Class 3 Wetlands.

- i. Wetlands equal to or less than one acre in size and have two or fewer wetland vegetation classes.
- b) Restoration Recommendations. The delineation shall also include recommendations to improve the wetland's function, including removal of invasive species and drain tiles, reseeding and planting, ongoing maintenance recommendations, and restoring the vegetative buffer around the wetland area.

(4) Implementation. After a delineation is completed and the wetland(s) is classified in accordance with the wetland classification section, the proposed development shall comply with the following:

- a) Buffering. The following buffers are required around the delineated area:
 - i. Class 1 Wetlands: One hundred (100) feet.
 - ii. Class 2 Wetlands: Seventy five (75) feet.
 - iii. Class 3 Wetlands: Fifty (50) feet.
- b) Activities Allowed. Only the following activities are allowed in buffer areas:
 - i. Minor land-disturbing activities for erosion control or revegetation.
 - ii. Fencing.
 - iii. Utilities.
 - iv. Unpaved trails and paths
- c) Buffer Averaging. If the following is demonstrated by the wetland delineation, buffers may be averaged so that the total area of the buffer is not reduced in size and the width of the buffer at any one point is not decreased by more than fifty (50) percent of the required buffer width:
 - i. The wetland is less than one (1) acre in area; and
 - ii. Does not contain species listed by the federal or state government as endangered, threatened, critical or outstanding natural habitat for those species; and
 - iii. Does not contain diverse plant associations of infrequent occurrence or of regional significance; and
 - iv. Buffer averaging will improve the buffer function, wetland



- protection, and/or enhance the vegetative cover; and
 - v. The area being removed from the buffer does not contain other environmentally sensitive areas or act as a buffer for those areas such as native trees or prairie remnants.
- (5) Impact. To meet the goal of no net-loss of wetlands in Story County, impact to delineated wetlands, including, but not limited to, grading and earth disturbance, construction, vegetation removal, and vehicle or heavy machinery movement, shall be limited to the following when permitted based on the wetland class: management activities necessary for restoration and maintenance of the wetland; infrastructure necessary for access to a property, such as drive entrances and access roads; rural water lines, gas lines, or other public utilities. These impacts shall be the minimum necessary to accomplish the needs of the infrastructure project or utility installation. Wetlands shall not be used for stormwater retention or detention basins. If impacts are permitted, the applicant shall provide a written statement from the U.S. Army Corps of Engineers stating that development fully complies with all applicable federal wetland regulation as established in the Clean Water Act.
 - a) Class 1 Wetlands. Shall not be impacted for any purpose.
 - b) Class 2 and Class 3 Wetlands. Impact shall only be allowed when the impacts are strictly for the infrastructure and utility installation listed above. The applicant shall demonstrate that avoiding and minimizing the impact to a wetland is unreasonable and that siting said infrastructure in other locations is infeasible.
- (6) Compensatory Mitigation. Compensatory mitigation is required for any delineated wetland impact that equals or exceeds one tenth (0.10) of an acre. The following mitigation standards shall be required in addition to those general standards in Chapter 88.05(1)(A):
 - a) Mitigation areas for wetlands shall be located in the same HUC-12 subwatershed as the original wetland. If that is shown to be infeasible, then the same HUC-10 could be used upon extenuating circumstances and with approval as part of the mitigation plan.
 - b) For mitigation areas preserving existing wetlands off-site, wetlands shall be preserved at a ratio of 1:1. For mitigation areas reconstructing or creating wetlands, wetlands shall be replaced at a ratio of 2:1. For mitigation areas restoring previously drained or impacted wetlands, wetlands shall be restored at a ratio of 2:1.
 - c) Story County Conservation shall approve of all seeds used in the mitigation area prior to planting. No invasive or foreign species shall be planted in the mitigation area.
- (7) Restoration. Restoration to improve the wetland's function, including removal of invasive species and drain tiles, reseeding and planting, restoring the vegetative



- buffer around the wetland area, and placing the area in a conservation easement that includes provisions for ongoing maintenance, may be required as a condition of the applicable permit for the development.
- E. Watercourses and Waterbodies. Watercourses and waterbodies are areas that store and/or convey surface water, including but not limited to rivers, streams, creeks, drainageways, ponds, and lakes. These areas provide floodwater conveyance and storage, promote filtration, and improve water quality. Additionally, they provide significant habitat for species and provide recreational opportunities. The requirements of this section shall be in addition to the applicant's obligation to satisfy all other applicable local, state, or federal regulations and permits.
- (1) Applicability. The provisions within this section apply to all zoning and grading permits, conditional use permits, commercial site plans, and subdivisions with more than two development lots. These shall be hereinafter referred to as "development."
- (2) Identification. The existence of watercourses and waterbodies shall be identified or ruled out in accordance with the following procedures:
- a. Use of Story County Countywide Watershed Assessment maps, Natural Resource Area maps, or FEMA Flood Insurance Rate Maps (FIRMs) may be used to identify or rule out the existence of watercourses, and waterbodies.
- (3) Implementation. If watercourses and waterbodies are located on the site, the proposed use and development shall comply with the following:
- a. Buffering. An undisturbed buffer shall be provided in accordance to the following requirements:
- i. Mapped rivers and streams with no floodway identified on the effective FIRM maps shall require a minimum 50-foot undisturbed buffer on each side of the stream's belt width, which is the stream flows measured between the outsides of opposing meander bends. (See Figure 1)
- ii. Mapped rivers and streams with floodway identified on effective FIRM maps shall require a minimum 50-foot undisturbed buffer on each side of the floodway boundary, measured from the edge of the floodway boundary, or using the method described above for No Floodway (a), whichever creates that largest stream buffer.
- iii. Other mapped watercourses and surface waterbodies not covered by the Special Flood Hazard Area (SFHA) shall have an undisturbed buffer 30 feet in width, measured from the edge of the watercourse or surface waterbody.

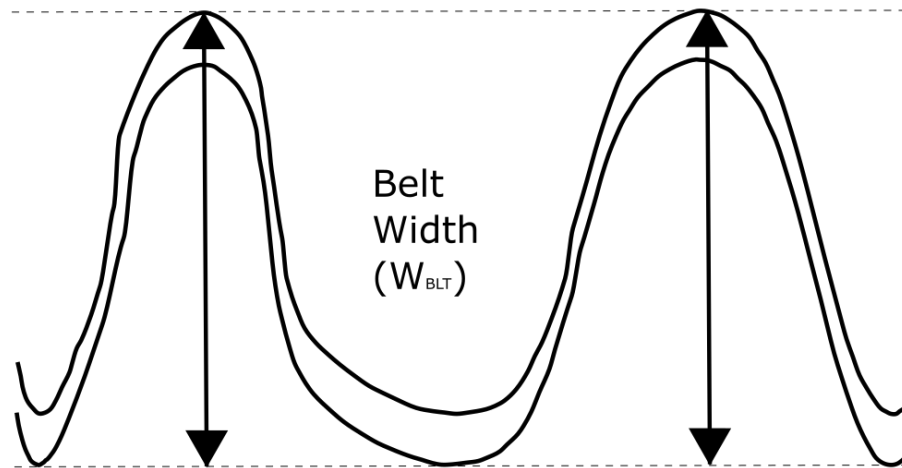


Figure 1

b. Permitted Uses. The following uses are permitted in a required buffer zone or easement area:

- i. Agricultural uses, such as grazing and fencing
- ii. Legal, nonconforming uses
- iii. Minor land-disturbing activities for erosion control and bank stabilization or revegetation
- iv. A perpendicular stream crossing by a driveway, street, or utility lines
- v. A street or driveway where buffer intrusion is the only option to provide access to a property
- vi. Paved and unpaved trails and paths for use
- vii. Public water supply intake or public wastewater outfall structures
- viii. Public access facilities that must be on the water including boat ramps, docks, foot trails leading directly to the stream or watercourse, fishing platforms and overlooks
- ix. Utility lines and easements running parallel with the stream, except that all easements (permanent and construction) and clearing and grading shall recognize the sensitivity of the streams and use BMPs to limit and repair the disturbance within the buffer area. This includes such impervious cover as necessary for the operation and maintenance



- of the utility, including but not limited to manholes, vents and valve structures.
- c. Impervious Area Setback. To allow for natural meandering of streams and watercourses without disturbance to development, an additional 25-foot setback shall be maintained adjacent to the undisturbed buffer in which all impervious surfaces shall be prohibited.
- (4) Easement Required. Whenever any stream or watercourse is located in an area being subdivided, the subdivider shall provide and dedicate to the County an easement along each side of the stream or watercourse, which easement shall be for the purpose of widening, improving, or protecting the stream or watercourse, if necessary.
- a. The width of such easement shall be provided in accordance to the minimum buffer sizes required under 88.05(1)(E)(3) of this section.
- b. Suitable provisions for maintenance and upkeep of easements shall be provided through a homeowners association, deed covenants, or through other similar provisions as approved by the Board of Supervisors.
- (5) Impact. Development shall be designed to avoid and minimize impact to all streams and watercourses. Watercourse alterations or relocations (channel changes and modifications) shall be in accordance with Chapter 80 Floodplain Management Program of the Story County Code of Ordinances or other State or Federal requirements. For zoning and grading permits, a mitigation plan may be approved by the Planning and Development Director in lieu of a mitigation plan approved by the Board of Supervisors and the Story County Conservation Board as required in Chapter 88.05(1)(A).
- (6) Restoration. Restoration to improve riparian buffer areas along watercourses and waterbodies, including removal of invasive species and drain tiles, reseeding and planting, restoring the riparian buffer, and placing the area in a conservation easement that includes provisions for ongoing maintenance, may be required as a condition of the applicable permit or rezoning for the development.
- (7) Development in the Floodplain. Development in the floodplain is discouraged. Any proposed development in the floodplain shall be done in accordance with the adopted Chapter 80 Floodplain Management Program of the Story County Code of Ordinances or other state or federal requirements.
- F. Prairie Remnants and Savanna Remnants. Prairie remnants are characterized by areas containing an association of native grasses, sedges, and forbs. Savanna remnants are characterized by a mixed association of native trees in grassland. The native trees are open grown and are frequently oaks and hickories. Prairie remnants and savanna remnants provide habitat to Story County's wildlife species and pollinators, reduce soil erosion, and improve water quality through infiltration. Determination of prairie remnants and savanna remnants shall be made by a qualified professional.



- (1) Applicability. The provisions within this section shall be applicable to all proposed rezonings, conditional use permits, commercial site plans, and subdivisions with more than two development lots. These shall be hereinafter referred to as “development.”
- (2) Identification. When an application for development is received, identification of prairie remnants and/or savanna remnants shall be made in accordance with the following procedures:
 - a. Review of the Story County Natural Resource Area maps.
 - b. Use of historic aerial photographs to determine cropping history of the property. Unplowed or uncropped prairies shall be considered remnants.
 - c. If the above procedures do not definitively rule out a prairie remnant or savanna remnant, a qualified professional shall complete an on-site assessment during the prairie growing season, between June 15th and August 15th. A prairie remnant and savanna remnant may only be identified by the flora present, not soil type. For savanna remnants, large (greater than eighteen (18) inches diameter breast height), open grown, native trees, such as Oak or Hickory, must be present.
- (3) Prairie Remnant and/or Savanna Remnant Delineation Required. If development is proposed within one hundred fifty (150) feet of a prairie remnant and/or savanna remnant, the full extent of the remnant shall be delineated by a qualified professional. The delineation shall be at the applicant’s expense.
 - a. Restoration Recommendations. The delineation shall also include recommendations to improve the prairie remnant and/or savanna remnant, including removal of invasive species and drain tiles, reseeding and planting, ongoing maintenance recommendations, and restoring the vegetative buffer around the remnant.
- (4) Implementation. After delineation of a prairie remnant and/or savanna remnant, the proposed use or development shall comply with the following standards:
 - a. Buffering. A one-hundred fifty (150) foot buffer is required around all delineated prairie remnant and savanna remnant.
 - b. Vegetative Cover. An enhanced vegetative buffer, in order to help filter and slow surface runoff, or a protective sub-drain, may be required to provide additional protection.
- (5) Impact. Impact to delineated prairie remnant and savanna remnant, including, but not limited to, grading and earth disturbance, construction, vegetation removal, and vehicle or heavy machinery movement, shall be limited to the following: management activities necessary for restoration and maintenance of the remnant; infrastructure necessary for access to a property, such as drive entrances and access roads; County Engineering projects; public infrastructure. These impacts shall be the minimum disturbance necessary.



(6) Mitigation. The following mitigation standards shall be required in addition to those general standards in Chapter 88.05(1)(A).

a. In cases where delineated prairie remnant and/or savanna remnant exists on the site and impact to the prairie remnant and/or savanna remnant is allowed as outlined in the previous section, the following mitigation procedures shall be required. In all instances, impacted prairie shall be mitigated with prairie, and impacted savanna shall be mitigated with savanna:

1. For mitigation areas preserving existing prairie and/or savanna off-site, prairies and/or savannas shall be preserved at a ratio of 1:1. For mitigation areas reconstructing or creating prairie and/or savanna, prairie shall be replaced at a ratio of 2:1.
2. Story County Conservation shall approve of all seeds used in the mitigation area prior to planting. The seed mix shall be equivalent to the CP42 pollinator mix with a ratio of 10 grass seeds to 30 forb seeds per square foot.
3. A detailed mitigation plan shall be completed by a qualified professional and submitted to the Planning and Development and Story County Conservation Directors for review and approval.

(7) Restoration. Restoration to improve the prairie remnant and/or savanna remnant, including removal of invasive species and drain tiles, reseeding and planting, restoring the vegetative buffer around the remnant, and placing the area in a conservation easement that includes provisions for ongoing maintenance, may be required as a condition of the applicable permit or rezoning for the development.

G. Archaeological Resources. Those areas containing significant sites of archaeological resources, such as Native American mounds and ancient burial sites, which contain material remains of past human life or of archaeological interest. The requirements of this section shall be in addition to the applicant's obligation to satisfy all other applicable local, state, or federal regulations and permits.

(1) Applicability. The provisions within this section shall be applicable to all proposed commercial and industrial development and site plans, minor and major subdivisions, rezonings, and conditional use permits within six-hundred fifty (650) feet of a stream.

(2) Identification. An archaeological assessment shall be conducted for the entire property to determine whether burial sites and Native American mounds exist on site, in accordance to the following procedures:

- a. The applicant shall conduct a search of the Iowa Site File for archaeological sites recorded within a one-mile radius of the proposed development through the University of Iowa Office of the State Archaeologist (OSA). The applicant shall indicate in their request to the



- OSA that the search is required to comply with the Story County Land Development Regulations Chapter 88.05 Environmental and Natural Resource Standards. The OSA report will identify and evaluate known surveys and archaeological resources and include recommendations for further archaeological investigations.
- b. If OSA does not recommend an archaeological survey, written notice as such from the OSA will suffice for completing this requirement.
 - c. If OSA recommends an archaeological survey, the applicant shall engage a qualified consultant from the Association of Iowa Archaeologists (AIA) Consultants List to complete the survey.
 - d. The consultant shall provide an electronic report of the survey to the Planning and Development Director and OSA. OSA may review the report to determine its adequacy using standard AIA guidelines. . The report shall include recommendations regarding further archaeological investigations and appropriate research questions to assist in the event of mitigation.
- (3) Implementation. If burial sites and/or Native American mounds are found on site, the applicant shall proceed in accordance with the following:
- a. Buffering. A buffer zone shall be established that measures at least one hundred (100) feet, or a buffer zone as requested by Native American Nations (or other appropriate descendent communities) around the burial site and/or Native American mounds.
- (4) Impact. The sensitive area and its buffer area shall be left undisturbed except for non-invasive/non-ground-disturbing management practices.
- (5) Mitigation. The following mitigation standards shall be required in addition to those general standards in Chapter 88.05(1)(A).
- a. Disturbance to the buffer area and/or reduction in buffer size shall only be permitted after recommendation from OSA, which may include consultation between Native American Nations (or other appropriate descendent communities), OSA, the State Historic Preservation Office, the Planning and Development Director, and funding agencies involved to determine mitigation measures.
 - b. A programmatic agreement or memorandum of understanding or agreement (MOA) or other appropriate protection measures may be developed as part of the recommendation.